

PROCEEDINGS
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A NEW LIZARD (*SCELOPORUS*) FROM OAXACA, MEXICO

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Specimens of *Sceloporus spinosus* recently received from extreme southern Oaxaca, Mexico, reveal that the form occurring there is a distinct and undescribed subspecies. We name it

Sceloporus spinosus apicalis new subspecies

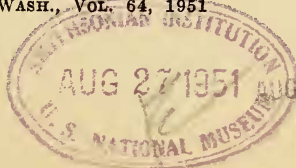
Holotype. Univ. Ill. Mus. Nat. Hist. no. 8864, an adult male, secured 10 miles southwest of Miahuatlán, Oaxaca, Mexico, July 6, 1949, by W. L. Burger.

Paratypes. Thirty-six, as follows: Univ. Ill. Mus. Nat. Hist. nos. 8850, 8852-3, eight miles south of Miahuatlán, Oaxaca, July 24, 1949, W. L. Burger; Univ. Ill. Mus. Nat. Hist. nos. 8851, 8854-63, 8865, and Ill. Nat. Hist. Surv. no. 6520, same data as holotype; Univ. Ill. Mus. Nat. Hist. nos. 10821-30, San Pedro Quiechapa, Oaxaca, H. M. Smith; Amer. Mus. Nat. Hist. nos. 18822-6, 18721-5, Miahuatlán, Oaxaca, Paul D. R. Rütthling.

Diagnosis. A subspecies of *Sceloporus spinosus* with the following combination of characters: usually 5-5 supraoculars, prefrontals usually in contact medially, usually less than 30 dorsal scales (80.5%), and usually less than 10 femoral pores (86%).

Description of holotype. Adult male; head scales smooth, convex except frontal and interparietal which are concave; interparietal pentagonal, its apex separating more or less rectangular frontoparietals medially; single parietal to either side of, and two-thirds size of interparietal; posterior portion of frontal slightly less than half size of anterior portion; prefrontals in contact medially; frontonasals three with laterals two-thirds the median in size, and in contact with both canthals; internasals five, irregular in arrangement and unequal in size; internasals separated from rostral by three postrostrals, median one of which is one-third size of lateral postrostrals, separated from nasals, by a ring of three much smaller scales; supraoculars five, anterior smallest, third largest, separated from median head plates by a single row of linear scales, and from superciliaries by a single row of rectangular scales; two canthals per side, separated from lorilabials; posterior canthal with a small posterior process on upper side which is involved in superciliary ridge; subnasal present, two-thirds size of more or less square loreal and slightly more than half size of preocular; one elongate, keeled subocular; two smaller keeled postoculars; lorilabials in two

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AUG 24 1951

rows except anteriorly; supralabials 4-4; infralabials 5-5, slightly larger than supralabials.

Mental pentagonal, anterior edge slightly convex; three pairs of postmentals, anterior pair in contact medially; mental separated from labimentals; infralabials separated from gulars by one complete and one incomplete row of labimentals; anterior gulars reduced in size and entire; posterior gulars distinctly notched; auricular lobules three, median largest, lower smallest; temporal scales keeled and weakly mucronate; postauricular scales strongly mucronate and denticulate.

Dorsal scales keeled, mucronate, denticulate, increasing in size posteriorly, in 38 rows at midbody, 28 from interparietal to a point above rear margins of femora; mucrones in parallel rows; occipital scales reduced in size; lateral scales not mucronate, strongly denticulate, slightly smaller than dorsals, and in oblique rows; ventral scales notched, about $\frac{1}{2}$ size of dorsals, 38 from shoulders to anus; chest scales slightly larger than belly scales; interfemoral and preanal scales slightly smaller than belly scales; dorsal scales of legs keeled, mucronate, slightly notched; ventral leg scales not keeled, mucronate, strongly denticulate; femoral pores 7-7; lamellar formula for toes 9-14-18-20-13 (9-14-17-20-14), fingers 9-13-16-17-10 (9-14-16-17-11); proximal dorsal tail scales as large as dorsal body scales, similar, becoming more strongly keeled and smaller distally; ventral tail scales notched, smooth proximally, becoming keeled and mucronate distally; snout-vent length 90 mm., tail length 137 mm.

Dorsum very dark with ill defined dorsolateral light stripes about two scales wide, comprised of light, green-centered scales; no transverse dark bars or blotches; upper surface of tail black; chin except gray mental and postmentals blue, each scale with narrow outer margin of white; ventral scales between blue belly patches and gular fold region light green, mottled with dark gray; belly patches separated medially by four scale widths at narrowest point (midway between axilla and groin); blue on anterior surface of thighs gradually becoming black; underside of legs gray green with minute dark mottling; underside of tail light gray proximally, becoming darker distally.

Variation. The paratypes exhibit the following variation. The number of femoral pores in 36 specimens varies from 7 to 11, average 8.2 (7-8, four; 8-8, twelve; 8-9, nine; 9-9, five; 9-10, one; 10-11, one; 11-11, two). The number of dorsal scales varies from 27 to 33, average 28.5 (27, thirteen; 28, eight; 29, eight; 30, three; 32, three, 33, one). The number of supraoculars is available for 35 specimens as follows: 4-4, two; 4-5, three; 5-5, twenty-nine; 5-6, one. The condition of the prefrontals in 25 specimens is also variable; the scales are in contact medially in 22 specimens, separated by an azygous scale in three. The number of ventral scales between the anus and anterior border of the shoulders in 15 specimens varies from 36 to 47, average 40.2 (36, one; 37, one; 40, two; 42, three; 43, two; 44, two; 45, two; 46, one; 47, one).

Distinctness of dorsal pattern varies from an almost black ground color with indistinct dorsolateral light stripes to a gray green ground color with more or less distinct light greenish dorsolateral stripes, slightly less than two scales in width. The latter condition is found chiefly in the females. Some females and sub-adults of both sexes usually have six

to seven transverse black bands, about a scale length in width, which are interrupted middorsally and dorsolaterally by the longitudinal light stripes. Chins of females and juvenile males are uniform gray green or gray with longitudinal dark stripes. Venter of females are immaculate or irregularly marked with dark lines or dots, usually with a midventral dark line. Adult males have blue black chins, blue belly patches, a heavy midventral dark stripe, and the entire venter is suffused with black.

Comparisons. The adjacent race of *S. spinosus* is *S. s. caeruleopunctatus*, which inhabits the area immediately to the north of that occupied by *S. s. apicalis* and differs most markedly in possessing more numerous dorsals (28 to 37, 91% with 31 or more), and more numerous femoral pores (8 to 14, 87% with 10 or more); a difference in pattern may well exist, for the new form shows no evidence of the two rows of dark blue spots between the dorsolateral light lines as is so characteristic of *S. s. caeruleopunctatus*.

Actually the race most closely duplicating the new form is *S. s. spinosus*, in spite of the separation of the ranges of the two forms by that of *S. s. caeruleopunctatus*. The only features we have observed to differ between *S. s. apicalis* and *S. s. spinosus* is number of supraoculars (4 in 78% of *S. s. spinosus*, 7% of *S. s. apicalis*; and contact (83% of *S. s. apicalis*) or separation (88% of *S. s. spinosus*) of the prefrontal scales. The latter character is highly variable in *S. s. caeruleopunctatus*.

Remarks. Intergradation between *S. s. caeruleopunctatus* and *S. s. apicalis* probably occurs between Ejutla and Miahuatlán. Specimens from a short distance to the north of Ejutla (near Ocotlán) are apparently typical of the more northern race, whereas those from an approximately equal distance to the south near Miahuatlán are of course *S. s. apicalis*. Incomplete data on two specimens in the American Museum (nos. 18598-9) from "Miahuatlán to Ejutla" are, however, more or less typical for the more northern race (dorsals 33, 32; supraoculars 5-5 in each; femoral pores 10-11, 12-12); the specimens presumably were taken nearer the biotic area including Ejutla than that encompassing Miahuatlán.

At least one character is unique for each of the three races of *S. spinosus*. In virtually all respects the central race, *S. s. caeruleopunctatus*, is more primitive than the two peripheral forms, which may well be regarded as somewhat parallel derivatives of a common ancestor similar to the present central race.

No difference in habits or habitat between the three races of *S. spinosus* are now apparent. Field notes record that Burger's specimens were taken "in brush" and on "open rocky hillsides."

The zoogeography of southern Oaxaca is obviously inadequately known. The race here described is apparently restricted to the ranges of mountains south of the Tehuantepec River and east of the Río Verde. A growing body of evidence points toward the existence in this region of a degree of endemism, at least at high elevations, that merits zoogeographic recognition.